

CURRENT LITERATURE.

BOOK REVIEWS.

American fossil cycads.¹

SINCE 1898 DR. WIELAND has been investigating the wonderful American display of fossil cycadean forms, usually referred to now as the Bennettiales. The investigation has demanded an unusual amount of patience and hard work in making the necessary collections and sections. The student of living plants has no adequate conception of the labor involved in obtaining valuable results from sectioning fossil material. The result of all this work now appears in a bulky memoir published by the Carnegie Institution. It is a veritable mine of information in reference to Bennettiales, a mine that will be worked by botanists for a long time to come. To present the results here would be to write another book. They are not essentially new, but they are so much more complete and more finely illustrated than ever before that the student of gymnosperms must always consult this volume.

The contents may be outlined by giving the chapter headings as follows: discoveries and collections, preservation and external characters, on the methods of section cutting, trunk structure, foliage, ovulate cones, bisporangiate axes, young fructifications, existing and fossil cycads compared, fern ancestry and angiosperm analogies.

The author is to be congratulated upon the amount of good work that he has accomplished and upon the fine and permanent form in which it has appeared. Morphologists can now lay hold of this material as they never could before, and organize it for general use.—J. M. C.

MINOR NOTICES.

Reproduction.—Under the title "multiplication and sexuality in plants," KÜSTER² has published some expanded lectures which were given in January and February of this year and constituted "an advance course for teachers." Vegetative multiplication is first considered in the higher plants, then in the lower. Sexual reproduction is treated historically, and then taken up from the standpoint of its evolution, the lower forms being treated first. The general problems discussed are: sexual affinity, hybridization, polyspermy, parthenogenesis, apogamy, apospory, and distribution of sexes. The book closes with remarks on theories of reproduction and sexuality. It is a convenient, compact, and reliable compendium of the subject.—CHARLES J. CHAMBERLAIN.

¹ WIELAND, G. R., American fossil cycads. pp. 296. pls. 50. figs. 138. Carnegie Institution. 1906.

² KÜSTER, ERNST, Vermehrung und Sexualität bei den Pflanzen. 8vo. p. vi+120. figs. 38. Leipzig: B. C. Teubner. 1906. M 1.25.